

MERWIN, Jeffrey

10/729,068

Attorney Docket No. 76288-88036

REMARKS

Examination is respectfully requested in view of the following remarks.

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Disposition of Claims

Claims 1-21 remain pending in the instant application.

Preliminary Amendment

10 The Examiner is respectfully requested to acknowledge receipt of the preliminary amendment filed on August 9, 2005.

Drawings

15 The Examiner is respectfully requested to acknowledge receipt of the corrected drawings filed concurrently with the above preliminary amendment. In particular, the FIG. 2 was amended to change reference number 18 to correctly read 29 as recited in the specification. Accordingly, the Examiner is respectfully requested to approve the amendment to FIG. 2.

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Provisional Election of Claims

In response to the Examiner's restriction requirement, the Applicant hereby provisionally elects with traverse claims 5, 6, 8-10, 12, 13, 15, 16, and 21, identified as species I (FIG. 4) directed to a low water cut-off system that provides a fail-safe operation. By this provisional election of claims under Species I, the Applicant reserves the right to file a divisional application directed to non-elected claims 1-4, 7, and 17-20 identified as species II (FIG. 3) directed to a low water cut-off system that provides a delay-on-make and a delay-on-break features.

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The Applicants respectfully traverse the Examiner's restriction requirement for the reasons stated below.

5 Claims 5 and 12 Appear to Be Generic

The Examiner asserts that the claims are directed to the following patentably distinct species of the claimed invention and that none of the claims appears generic:

- 10 Species I: Figure 4
 Species II: Figure 3

Although the Examiner asserts that there is no generic claim present in the application, the Applicant contends that
15 independent claims 5 and 12 are generic since these claims include no material elements additional to those recited in the species claims. See MPEP 806.04(d).

Claim 5 recites:

- 20 5. Apparatus responsive to presence of a fluid at a predetermined level within a fluid-receiving space in which the fluid can rise to the predetermined level and for providing a control function if a level of the fluid shifts from the predetermined level, comprising:
25 signal generating circuitry capable of introducing a level-determining signal into the fluid-containing space such that the level-determining signal is present for sensing within fluid at the predetermined level if, and only if, the fluid level is at least as high as the predetermined level,
30 probe and probe-responsive circuitry having a sensitivity capable of sensing the presence of the level-determining signal within the fluid at the predetermined level,
 wherein the probe is configured for being inserted into the fluid-receiving space at the predetermined level, and
35 control circuitry capable of providing a control function in response to whether the level-determining signal is so

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sensed, in order to indicate whether the fluid has a level at least as high as the predetermined level,

whereby the control function may be used for alarm or cut-off purposes if the fluid level shifts relative to the predetermined level, said level-determining signal being transmitted through the fluid in the fluid-receiving space according to the value of electrical conductivity of the fluid, and the system including a provision for selectively adjusting the sensitivity of the probe-responsive circuitry according to predetermined threshold of said value.

Claim 12 recites:

12. A method of electronically determining whether fluid is at a predetermined level within a fluid-receiving space, comprising the steps of:

introducing a signal into the fluid-receiving space such that the signal is present for sensing within fluid at the predetermined level, the signal being transmitted through fluid in the fluid-receiving space according to a value of electric conductivity of the water,

providing a probe at the predetermined level for sensing said signal,

sensing for the presence of the signal within the fluid at the predetermined level,

providing a control function in response to whether the signal is so sensed, in order to indicate whether the fluid is or is not present at the predetermined level wherein the control function is an indication that fluid is lower than the predetermined level, and at least the sensing and control functions providing a means of being carried out by microprocessor control, and by further using said microprocessor control to determine either a delay on make or delay on break time, or both, for indication that fluid is lower than said predetermined level, and

selectively adjusting the sensitivity of the probe for sensing the presence of the signal in the fluid according to said value of electrical conductivity.

Dependent claims 7, 14, 17-20 of species II which depend from either independent claims 5 and 12 contain all of the limitations of these independent generic claims. In particular, dependent claim 7 is directed to an embodiment of the low water cut-off system wherein the probe-responsive circuitry of

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independent claim 5 is associated with the probe for receiving and determining the level-determining signal. In addition, dependent claim 14 is directed to an embodiment of the low water cut-off system wherein the signal of claim 12 that is introduced into the fluid-receiving space is of a periodic nature, while dependent claim 17 is directed to an embodiment of the low water cut-off system wherein the fluid of claim 12 has a characteristic having a value. Finally, dependent claims 18, 19 and 20 are directed to an embodiment of the low water cut-off system wherein the control function of claim 12 provides a certain indication that fluid is lower than a predetermined level which is carried out by the microprocessor.

A review of independent claims 5 and 12 clearly shows that these independent claims are generic since they include no material element additional to those recited in the species claims 7, 14 and 17-20. Accordingly, the Applicant respectfully requests that these independent claims should be considered generic and that the non-elected claims of species II embodied by dependent claims 7, 14, 17-20, respectively, be considered allowable if the Examiner finds generic independent claims 5 and 12 allowable.

Claims Directed to Species I and II Are Unpatentable Over Each

25 Other

A restriction requirement is unnecessary and election of species should not be required if the species claimed are considered clearly unpatentable (obvious) over each other. See MPEP 808.01(a). In making a restriction requirement in an application claiming plural species, the Examiner should group together species considered clearly unpatentable over each

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other, with the statement that restriction as between those species is not required. Id. As noted above, the claims of Species I and II are both directed to a low water cut-off system comprising a signal generating circuitry capable of introducing
5 a signal within a fluid, probe and probe-responsive circuitry capable of sensing the presence of the signal, wherein the probe is configured for being inserted into a fluid-receiving space at a predetermined level. For example, the low water cut-off system recited under claims 1-4, 7, 11, 14, 17-21 of species II recite
10 the basic elements of the low water cut-off system that provide a fail safe operation, while claims 5, 6, 8-10, 12, 13, 15, 16 and 21 of species I recite the same basic elements of the low water cut-off system having certain delay operations.

15 However, the distinction of a low water cut-off system having a fail safe operation and the same low water cut-off system with certain delay operations does not appear sufficient to require restriction of these two species because the different embodiments of low water cut-off system are
20 substantially similar in structure as well as operation. In particular, all of the embodiments of the low water cut-off system recited in claims have substantially similar structures that provide an apparatus responsive to the presence of fluid at a predetermined level. Accordingly, species I and II should be
25 considered unpatentable (obvious) over each other and the restriction requirement withdrawn.

In addition, there is no undue burden on the Examiner to examine both embodiments together because all of the embodiments
30 of the low water cut-off system should be classified under the same classification due to the physical and functional

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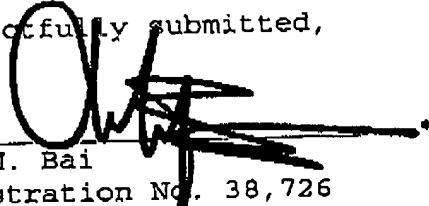
similarities between the different embodiments of the low water cut-off system as noted above.

Based on the foregoing, the inventions recited in Species I and II are obvious variants of one another and the Examiner is respectfully requested to withdraw his restriction requirement in view of these structural and operational similarities noted by the Applicant.

The Examiner is requested to call the undersigned attorney collect if he has any questions related to the Applicants remarks and arguments traversing the Examiner's restriction requirement.

Respectfully submitted,

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Date


Ari M. Bai
Registration No. 38,726
Greensfelder, Hemker & Gale, PC
10 S. Broadway, Suite 2000
St. Louis, Missouri 63102
314-516-2651 Telephone
314-345-4704 Facsimile